

CLAIMS

What is claimed is:

1. A bearing apparatus for a driving wheel of a vehicle comprising:
a wheel hub, a constant velocity universal joint and a double row rolling bearing assembled as a unit, said wheel hub and an outer joint member of the constant velocity universal joint are fitted with each other; and
a connected portion of the wheel hub and the outer joint member has a plastic deformed connection mechanism having an axial pull-out proof force more than 160 kN.

2. A bearing apparatus for a driving wheel of a vehicle comprising:
an outer member formed with double row outer raceway surfaces on an inner peripheral surface of said outer member;
an inner member having double row inner raceway surfaces arranged oppositely to the double row outer raceway surfaces of said outer member;
said inner member including an inner ring having an outer peripheral surface with one of said double row inner raceway surfaces, said inner ring fitted with a wheel hub integrally formed with a wheel mounting flange or with another inner ring having an outer peripheral surface with the other double row inner raceway surfaces; and
a connected portion on said inner ring and said wheel hub having a plastic deformed connection mechanism having an axial pull-out proof force more than 160 kN.

3. A bearing apparatus for a driving wheel of a vehicle according to Claim 1 wherein one inner raceway surfaces of the double row rolling bearing being formed on the wheel hub and another of the double row inner raceway surfaces being formed on the outer joint member; a hardened irregular portion being formed on a radially outwardly arranged member at the fitted portion of the wheel hub and the outer joint member; and the wheel hub and the outer joint member are integrally connected via plastic deformation of a radially inwardly arranged member by radially outwardly expanding the radially inwardly arranged member enabling the hardened irregular portion of the radially outwardly arranged member to bite into the surface of the radially inwardly arranged member.

4. A bearing apparatus for a driving wheel of a vehicle according to claim 3 wherein the outer joint member of the constant velocity universal joint is fitted into the wheel hub; one of the inner raceway surfaces of the double row rolling bearing is formed on the wheel hub and the other of the double row inner raceway surfaces is formed on the outer joint member.

5. A bearing apparatus for a driving wheel of a vehicle according to claim 3 wherein the outer joint member of the constant velocity universal joint is fitted onto the wheel hub; one of the inner raceway surfaces of the double row rolling bearing is formed on the wheel hub and the other of the double row inner raceway surfaces is formed on the outer joint member.

6. A bearing apparatus for a driving wheel of a vehicle according to claim 1 wherein the wheel hub and the outer joint member of the constant velocity universal joint are detachably connected with each other; one inner raceway surface of the double row rolling bearing formed on an inner ring fitted onto the wheel hub and another double row inner raceway surface formed on the wheel hub; a hardened irregular portion formed on the inner ring; and the inner ring and the wheel hub being integrally connected via plastic deformation of the wheel hub by radially outwardly expanding the wheel hub enabling the hardened irregular portion of the inner ring to bite into the surface of the wheel hub.

7. A bearing apparatus for a driving wheel of a vehicle according to claim 3 wherein the portion to be radially outwardly expanded projects beyond the hardened irregular portion.

8. A bearing apparatus for a driving wheel of a vehicle according to claim 7 wherein the hardened irregular portion is formed by substantially orthogonally crossed grooves comprising a plurality of axial grooves and annular grooves; and the outer diameter of the portion projecting beyond the hardened irregular portion is larger than the bottom diameter of the annular grooves or the axial grooves.

9. A bearing apparatus for a driving wheel of a vehicle according to claim 1 wherein a load supporting capacity of the bearing of an inboard side of the double row rolling bearing is higher than that of the bearing of outboard side.